SANTA CRUZ BIOTECHNOLOGY, INC.

HYAL4 siRNA (m): sc-146116

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Hyaluronidases (HAases or HYALs) are a family of lysosomal enzymes that are crucial for the spread of bacterial infections and of toxins present in a variety of venoms. HYALs may also be involved in the progression of cancer. In humans, six HYAL proteins have been identified. HYAL proteins use hydrolysis to degrade hyaluronic acid (HA), which is present in body fluids, tissues, and the extracellular matrix of vertebrate tissues. HA keeps tissues hydrated, maintains osmotic balance, and promotes cell proliferation, differentiation, and metastasis. HA is also an important structural component of cartilage and acts as a lubricant in joints. HYAL4 is differentially expressed in placenta and skeletal muscle and contains an N-glycosylation site with tripeptide patterns. HYAL4 may form a complex with HYALP1, HYAL5, and Ph-20.

REFERENCES

1. Csóka, A.B., et al. 1999. Expression analysis of six paralogous human hyaluronidase genes clustered on chromosomes 3p21 and 7q31. Genomics 60: 356-361.
2. Fiszer-Szafarz, B., et al. 2000. Human hyaluronidases: electrophoretic multiple forms in somatic tissues and body fluids. Evidence for conserved hyaluronidase potential N-glycosylation sites in different mammalian species. J. Biochem. Biophys. Methods 45: 103-16.
3. Csoka, A.B., et al. 2001. The six hyaluronidase-like genes in the human and mouse genomes. Matrix Biol. 20: 499-508.
4. Nicoll, S.B., et al. 2002. Hyaluronidases and CD44 undergo differential modulation during chondrogenesis. Biochem. Biophys. Res. Commun. 292: 819-825.
5. Kim, E., et al. 2005. Identification of a hyaluronidase, HYAL5, involved in penetration of mouse sperm through cumulus mass. Proc. Nat. Acad. Sci. USA 102: 18028-18033.
6. Asteriou, T., et al. 2006. Inhibition of hyaluronan hydrolysis concentration and low ionic strength. Matrix Biol. 25: 166-174.
7. Belem-Gonçalves, S., et al. 2006. Interfacial behaviour of bovine testis hyaluronidase. Biochem. J. 398: 569-576.

CHROMOSOMAL LOCATION

Genetic locus: Hyal4 (mouse) mapping to 6 A3.1.

PRODUCT

HYAL4 siRNA (m) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see HYAL4 shRNA Plasmid (m): sc-146116-SH and HYAL4 shRNA (m) Lentiviral Particles: sc-146116-V as alternate gene silencing products.

For independent verification of HYAL4 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-146116A, sc-146116B and sc-146116C.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

HYAL4 siRNA (m) is recommended for the inhibition of HYAL4 expression in mouse cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

GENE EXPRESSION MONITORING

HYAL4 (A-7): sc-377369 is recommended as a control antibody for monitoring of HYAL4 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor HYAL4 gene expression knockdown using RT-PCR Primer: HYAL4 (m)-PR: sc-146116-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.